

INITIAL REVIEW EXPOSURE REPORT (IRExR)

Chemical ID: P-16-0510
Reviewer:

Results Table: Dose, Concentration, and Days Exceeded Results Summary

Exposure Scenario ¹	Water						Landfill	Stack Air		Fugitive Air	
Release activity(ies) ² ; exposure calculation(s) ³	Drinking Water		Fish Ingestion		7Q10 ⁴ CC = 43	PDM Days Exceeded	LADD	ADR (24-hr conc.)	LADD (Annual conc.)	ADR (24-hr conc.)	LADD (Annual conc.)
	ADR	LADD	ADR	LADD							
	mg/kg/day	mg/kg/day	mg/kg/day	mg/kg/day	µg/l	# Days	mg/kg/day	mg/kg/day (µg/m ³)	mg/kg/day (µg/m ³)	mg/kg/day (µg/m ³)	mg/kg/day (µg/m ³)
PROC1a (NJ0020141): Max ADR: max acute eco	---	---	---	---	1.90E-01	---	---	---	---	---	---
PROC1b (NJ0024708): Max ADR: max acute eco	---	---	---	---	3.23E-03	---	---	---	---	---	---
PROC1b (NJ0024708): PDM1	---	---	---	---	3.23E-03	0	---	---	---	---	---
PROC2: Max ADR: max acute eco	8.92E-05	---	---	---	4.03E+00	---	---	---	---	---	---
PROC2: PDM1	---	---	---	---	3.35E-02	0	---	---	---	---	---
PROC2: Max LADD	---	5.25E-08	---	---	---	---	---	---	---	---	---
USE: Max ADR: max acute eco	8.83E-05	---	---	---	3.99E+00	---	---	---	---	---	---
USE: PDM1	---	---	---	---	2.45E+00	0	---	---	---	---	---
USE: Max LADD	---	1.86E-06	---	---	---	---	---	---	---	---	---

¹ Exposure scenario titles consist of release activity followed by exposure calculation abbreviation.

² Release activities are from engineering report's Manufacturing (Mfg), Processing (Proc) and Use release activity labels. Multiple release activities are combined in one exposure scenario if their releases occur at same location.

³ Exposure calculations are Acute Dose Rate (ADR), Lifetime Average Daily Dose (LADD), and Probabilistic Dilution Model (PDM). There may be one, two, or all three exposure calculations per exposure scenario. CC is the aquatic concentration of concern.

⁴ This column displays concentration values for the 7Q10 streamflow, which is defined as the average daily streamflow of the seven consecutive days of lowest flow within a ten year period.

Remarks:
PROC1a – NPDES# NJ0020141, PROC1b – NPDES# NJ0024708, PROC2 – POTW (Ind.), USE – POTW (Ind.)

Results Table: Consumer Exposure Results Summary

Scenario	Water (DtD)						Dermal		Inhalation	
	Drinking Water		Fish Ingestion		7Q10	PDM Days Exceeded	ADR	LADD	ADR	LADD
	ADR	LADD	ADR	LADD						
	mg/kg/day	mg/kg/day	mg/kg/day	mg/kg/day	µg/l	# Days	mg/kg/day	mg/kg/day	mg/kg/day	mg/kg/day
CEM², General Purpose	---	---	---	---	---	---	8.59E-03	5.16E-03	4.43E-05	6.73E-04
CEM², Solid air freshener	---	---	---	---	---	---	---	---	1.58E-05	2.66E-06

¹ Down-the-Drain Module within NCEM2 model.

² Consumer Exposure Module within NCEM2 model.

INITIAL REVIEW EXPOSURE REPORT

Chemical ID: P-16-0510

Assessor: XXXXXXXXXX

ENVIRONMENTAL RELEASES

Scenario#: 1

Number of Release Sites: 1.

Release Activity: PROC1a (NJ0020141): Max ADR

Release Description:	WATER	LANDFILL Non-sludge/Sludge	STACK	FUGITIVE
Total Releases:	31.00 (kg/yr)	N/A (kg/yr)	N/A (kg/yr)	N/A (kg/yr)
Non-sludge/Sludge				
Release Days/yr:	10.00	0.00/0.00	N/A	N/A
Per Site Release:	3.10 (kg/site/day)	N/A/0.00 (kg/site/day)	N/A (kg/site/day)	N/A (kg/site/day)

Remarks:

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CHEMICAL ID: P-16-0510

SITE-SPECIFIC HUMAN AND AQUATIC EXPOSURES TO SURFACE WATER RELEASES: LAKES, BAYS, ESTUARIES, AND OCEANS		
SCENARIO #: 1	RELEASE ACTIVITY: PROC1a (NJ0020141): Max ADR	
FACILITY NAME: MIDDLESEX CNTY UA		
FACILITY LOCATION: SAYREVILLE NJ 08872		
RECEIVING WATER NAME: RARITAN BAY		
REACH NUMBER: 02030104005	FACILITY ON REACH: Yes	DISCHARGE TYPE: Direct
NPDES PERMIT #: NJ0020141	EXPOSED POPULATION: Adult	

WWT REMOVAL (%)	RELEASE DAYS	PLANT FLOW (MLD)	PRETREAT RELEASE (kg/site/day)	POST-TREAT RELEASE (kg/site/day)	BCF (L/kg)
90.	10.	321.00	3.1	0.31	0.00

AQUATIC EXPOSURE ESTIMATES		
MIXING ZONE	DILUTION FACTOR	WATER CONCENTRATION (ug/L)
ACUTE SCENARIO	5.00	0.19
CHRONIC SCENARIO	10.00	9.66E-02

FISH INGESTION EXPOSURE ESTIMATES					
Exposure Units	Results	ASSUMPTIONS			
		ED (years)	AT (years)	BW (kg)	IR (g/day)
Cancer					
LADD _{pot} (mg/kg/day)	0.00	33.00	78.00	80.00	7.50
LADC _{pot} (mg/kg)	0.00	33.00	78.00	NA	NA
Acute					
ADR _{pot} (mg/kg/day)	0.00	NA	1 day	80.00	279.00

Lakes Comments:

INITIAL REVIEW EXPOSURE REPORT

Chemical ID: P-16-0510

Assessor: [REDACTED]

ENVIRONMENTAL RELEASES

Scenario#:2

Number of Release Sites: 1.

Release Activity: PROC1a (NJ0020141): Max LADD

Release Description:	WATER	LANDFILL Non-sludge/Sludge	STACK	FUGITIVE
Total Releases:	31.00 (kg/yr)	N/A (kg/yr)	N/A (kg/yr)	N/A (kg/yr)
Non-sludge/Sludge				
Release Days/yr:	1.00	0.00/0.00	N/A	N/A
Per Site Release:	31.00 (kg/site/day)	N/A/0.00 (kg/site/day)	N/A (kg/site/day)	N/A (kg/site/day)

Remarks:

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SITE-SPECIFIC HUMAN AND AQUATIC EXPOSURES TO SURFACE WATER RELEASES: LAKES, BAYS, ESTUARIES, AND OCEANS		
SCENARIO #: 2	RELEASE ACTIVITY: PROC1a (NJ0020141): Max LADD	
FACILITY NAME: MIDDLESEX CNTY UA		
FACILITY LOCATION: SAYREVILLE NJ 08872		
RECEIVING WATER NAME: RARITAN BAY		
REACH NUMBER: 02030104005	FACILITY ON REACH: Yes	DISCHARGE TYPE: Direct
NPDES PERMIT #: NJ0020141	EXPOSED POPULATION: Adult	

WWT REMOVAL (%)	RELEASE DAYS	PLANT FLOW (MLD)	PRETREAT RELEASE (kg/site/day)	POST-TREAT RELEASE (kg/site/day)	BCF (L/kg)
90.	1.	321.00	31.	3.10	0.00

AQUATIC EXPOSURE ESTIMATES		
MIXING ZONE	DILUTION FACTOR	WATER CONCENTRATION (ug/L)
ACUTE SCENARIO	5.00	1.93
CHRONIC SCENARIO	10.00	0.97

FISH INGESTION EXPOSURE ESTIMATES					
Exposure Units	Results	ASSUMPTIONS			
		ED (years)	AT (years)	BW (kg)	IR (g/day)
Cancer					
LADD _{pot} (mg/kg/day)	0.00	33.00	78.00	80.00	7.50
LADC _{pot} (mg/kg)	0.00	33.00	78.00	NA	NA
Acute					
ADR _{pot} (mg/kg/day)	N/A	NA	1 day	80.00	279.00

Lakes Comments:

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Assessor: XXXXXXXXXX

ENVIRONMENTAL RELEASES

Scenario#:3

Number of Release Sites: 1.

Release Activity: PROC1b (NJ0024708): Max ADR

Release Description:	WATER	LANDFILL Non-sludge/Sludge	STACK	FUGITIVE
Total Releases:	2.00 (kg/yr)	N/A (kg/yr)	N/A (kg/yr)	N/A (kg/yr)
Non-sludge/Sludge				
Release Days/yr:	100.00	0.00/0.00	N/A	N/A
Per Site Release:	2.00E-02 (kg/site/day)	N/A/0.00 (kg/site/day)	N/A (kg/site/day)	N/A (kg/site/day)

Remarks:

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SITE-SPECIFIC HUMAN AND AQUATIC EXPOSURES TO SURFACE WATER RELEASES: LAKES, BAYS, ESTUARIES, AND OCEANS		
SCENARIO #: 3	RELEASE ACTIVITY: PROC1b (NJ0024708): Max ADR	
FACILITY NAME: BAYSHORE REGIONAL SA		
FACILITY LOCATION: UNION BEACH NJ 07735		
RECEIVING WATER NAME: ATLANTIC OCEAN		
REACH NUMBER: 02030104014	FACILITY ON REACH: Unk	DISCHARGE TYPE: Direct
NPDES PERMIT #: NJ0024708	EXPOSED POPULATION: Adult	

WWT REMOVAL (%)	RELEASE DAYS	PLANT FLOW (MLD)	PRETREAT RELEASE (kg/site/day)	POST-TREAT RELEASE (kg/site/day)	BCF (L/kg)
90.	100.	25.92	0.02	2.00E-03	0.00

AQUATIC EXPOSURE ESTIMATES		
MIXING ZONE	DILUTION FACTOR	WATER CONCENTRATION (ug/L)
ACUTE SCENARIO	23.90	3.23E-03
CHRONIC SCENARIO	65.00	1.19E-03

FISH INGESTION EXPOSURE ESTIMATES					
Exposure Units	Results	ASSUMPTIONS			
		ED (years)	AT (years)	BW (kg)	IR (g/day)
Cancer					
LADD _{pot} (mg/kg/day)	0.00	33.00	78.00	80.00	7.50
LADC _{pot} (mg/kg)	0.00	33.00	78.00	NA	NA
Acute					
ADR _{pot} (mg/kg/day)	0.00	NA	1 day	80.00	279.00

Lakes Comments:

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Assessor: XXXXXXXXXX

ENVIRONMENTAL RELEASES

Scenario#:4

Number of Release Sites: 1.

Release Activity: PROC1b (NJ0024708): PDM1

Release Description:	WATER	LANDFILL Non-sludge/Sludge	STACK	FUGITIVE
Total Releases:	2.00 (kg/yr)	N/A (kg/yr)	N/A (kg/yr)	N/A (kg/yr)
Release Days/yr:	100.00	0.00/0.00	N/A	N/A
Per Site Release:	2.00E-02 (kg/site/day)	N/A/0.00 (kg/site/day)	N/A (kg/site/day)	N/A (kg/site/day)

Remarks:

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SITE-SPECIFIC HUMAN AND AQUATIC EXPOSURES TO SURFACE WATER RELEASES: LAKES, BAYS, ESTUARIES, AND OCEANS		
SCENARIO #: 4	RELEASE ACTIVITY: PROC1b (NJ0024708): PDM1	
FACILITY NAME: BAYSHORE REGIONAL SA		
FACILITY LOCATION: UNION BEACH NJ 07735		
RECEIVING WATER NAME: ATLANTIC OCEAN		
REACH NUMBER: 02030104014	FACILITY ON REACH: Unk	DISCHARGE TYPE: Direct
NPDES PERMIT #: NJ0024708	EXPOSED POPULATION: Adult	

WWT REMOVAL (%)	RELEASE DAYS	PLANT FLOW (MLD)	PRETREAT RELEASE (kg/site/day)	POST-TREAT RELEASE (kg/site/day)	BCF (L/kg)
90.	100.	25.92	0.02	2.00E-03	0.00

AQUATIC EXPOSURE ESTIMATES		
MIXING ZONE	DILUTION FACTOR	WATER CONCENTRATION (ug/L)
ACUTE SCENARIO	23.90	3.23E-03
CHRONIC SCENARIO	65.00	1.19E-03

FISH INGESTION EXPOSURE ESTIMATES					
Exposure Units	Results	ASSUMPTIONS			
		ED (years)	AT (years)	BW (kg)	IR (g/day)
Cancer					
LADD _{pot} (mg/kg/day)	0.00	33.00	78.00	80.00	7.50
LADC _{pot} (mg/kg)	0.00	33.00	78.00	NA	NA
Acute					
ADR _{pot} (mg/kg/day)	0.00	NA	1 day	80.00	279.00

Lakes Comments:

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Assessor: XXXXXXXXXX

ENVIRONMENTAL RELEASES

Scenario#:5

Number of Release Sites: 1.

Release Activity: PROC1b (NJ0024708): Max LADD

Release Description:	WATER	LANDFILL Non-sludge/Sludge	STACK	FUGITIVE
Total Releases:	2.00 (kg/yr)	N/A (kg/yr)	N/A (kg/yr)	N/A (kg/yr)
Non-sludge/Sludge				
Release Days/yr:	1.00	0.00/0.00	N/A	N/A
Per Site Release:	2.00 (kg/site/day)	N/A/0.00 (kg/site/day)	N/A (kg/site/day)	N/A (kg/site/day)

Remarks:

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SITE-SPECIFIC HUMAN AND AQUATIC EXPOSURES TO SURFACE WATER RELEASES: LAKES, BAYS, ESTUARIES, AND OCEANS		
SCENARIO #: 5	RELEASE ACTIVITY: PROC1b (NJ0024708): Max LADD	
FACILITY NAME: BAYSHORE REGIONAL SA		
FACILITY LOCATION: UNION BEACH NJ 07735		
RECEIVING WATER NAME: ATLANTIC OCEAN		
REACH NUMBER: 02030104014	FACILITY ON REACH: Unk	DISCHARGE TYPE: Direct
NPDES PERMIT #: NJ0024708	EXPOSED POPULATION: Adult	

WWT REMOVAL (%)	RELEASE DAYS	PLANT FLOW (MLD)	PRETREAT RELEASE (kg/site/day)	POST-TREAT RELEASE (kg/site/day)	BCF (L/kg)
90.	1.	25.92	2.	0.20	0.00

AQUATIC EXPOSURE ESTIMATES		
MIXING ZONE	DILUTION FACTOR	WATER CONCENTRATION (ug/L)
ACUTE SCENARIO	23.90	0.32
CHRONIC SCENARIO	65.00	0.12

FISH INGESTION EXPOSURE ESTIMATES					
Exposure Units	Results	ASSUMPTIONS			
		ED (years)	AT (years)	BW (kg)	IR (g/day)
Cancer					
LADD _{pot} (mg/kg/day)	0.00	33.00	78.00	80.00	7.50
LADC _{pot} (mg/kg)	0.00	33.00	78.00	NA	NA
Acute					
ADR _{pot} (mg/kg/day)	N/A	NA	1 day	80.00	279.00

Lakes Comments:

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Chemical ID: P-16-0510

Assessor: XXXXXXXXXX

ENVIRONMENTAL RELEASES

Scenario#:6

Number of Release Sites: 25.

Release Activity: PROC2: Max ADR

Release Description:	WATER	LANDFILL Non-sludge/Sludge	STACK	FUGITIVE
Total Releases:	31.30 (kg/yr)	N/A (kg/yr)	N/A (kg/yr)	N/A (kg/yr)
Non-sludge/Sludge				
Release Days/yr:	4.00	0.00/0.00	N/A	N/A
Per Site Release:	0.31 (kg/site/day)	N/A/0.00 (kg/site/day)	N/A (kg/site/day)	N/A (kg/site/day)

Remarks:

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Chemical ID: P-16-0510

SIC-CODE BASED HUMAN AND AQUATIC EXPOSURES TO SURFACE WATER RELEASES

SCENARIO #: 6

Number of Sites: 25

RELEASE ACTIVITY: PROC2:
Max ADR

SIC-CODE DESCRIPTION: POTW (Indust., includes POTWs which receive ind. disch.)

SIC-CODE (S): Subset of 4952

EXPOSED POPULATION: Adult

WWT REMOVAL (%)	RELEASE DAYS	PRETREATMENT RELEASE (kg/site/day)	POSTTREATMENT RELEASE (kg/site/day)	DWT (%)	BCF (L/kg)
90.00	4.	0.313	3.13E-02	0.00	0.00

AQUATIC EXPOSURE ESTIMATES - SURFACE WATER									
PLANT TYPE	% ILE FACILITY	STREAM FLOW (MLD)				STREAM CONC. (µg/l)			
		Harmonic Mean	30Q5	7Q10	1Q10	Harmonic Mean	30Q5	7Q10	1Q10
ALL	50	288.00	123.84	78.18	66.05	0.11	0.25	0.40	0.47
ALL	10	39.60	13.29	7.76	7.57	0.79	2.36	4.03	4.13

DRINKING WATER AND FISH INGESTION EXPOSURE ESTIMATES						
Exposure Units	Drinking Water Results		Drinking Water Units	Fish Ingestion Results		Fish Ingestion Units
	50%	10%		50%	10%	
Cancer						
LADD _{pot}	6.55E-09	4.76E-08	mg/kg/day	0.00	0.00	mg/kg/day
LADC _{pot}	5.04E-07	3.66E-06	mg/L	0.00	0.00	mg/kg
Acute						
ADR _{pot}	9.57E-06	8.92E-05	mg/kg/day	0.00	0.00	mg/kg/day

SIC Code Comments:

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Assessor: XXXXXXXXXX

ENVIRONMENTAL RELEASES

Scenario#:7

Number of Release Sites: 25.

Release Activity: PROC2: PDM1

Release Description:	WATER	LANDFILL Non-sludge/Sludge	STACK	FUGITIVE
Total Releases:	3.44 (kg/yr)	N/A (kg/yr)	N/A (kg/yr)	N/A (kg/yr)
Non-sludge/Sludge				
Release Days/yr:	53.00	0.00/0.00	N/A	N/A
Per Site Release:	2.60E-03 (kg/site/day)	N/A/0.00 (kg/site/day)	N/A (kg/site/day)	N/A (kg/site/day)

Remarks:

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Chemical ID: P-16-0510

SIC-CODE BASED HUMAN AND AQUATIC EXPOSURES TO SURFACE WATER RELEASES

SCENARIO #: 7

Number of Sites: 25

RELEASE ACTIVITY: PROC2:
PDM1

SIC-CODE DESCRIPTION: POTW (Indust., includes POTWs which receive ind. disch.)

SIC-CODE (S): Subset of 4952

EXPOSED POPULATION: Adult

WWT REMOVAL (%)	RELEASE DAYS	PRETREATMENT RELEASE (kg/site/day)	POSTTREATMENT RELEASE (kg/site/day)	DWT (%)	BCF (L/kg)
90.00	53.	0.0026	2.60E-04	0.00	0.00

AQUATIC EXPOSURE ESTIMATES - SURFACE WATER									
PLANT TYPE	% ILE FACILITY	STREAM FLOW (MLD)				STREAM CONC. (µg/l)			
		Harmonic Mean	30Q5	7Q10	1Q10	Harmonic Mean	30Q5	7Q10	1Q10
ALL	50	288.00	123.84	78.18	66.05	9.03E-04	2.10E-03	3.33E-03	3.94E-03
ALL	10	39.60	13.29	7.76	7.57	6.57E-03	1.96E-02	3.35E-02	3.43E-02

DRINKING WATER AND FISH INGESTION EXPOSURE ESTIMATES						
Exposure Units	Drinking Water Results		Drinking Water Units	Fish Ingestion Results		Fish Ingestion Units
	50%	10%		50%	10%	
Cancer						
LADD _{pot}	7.21E-10	5.24E-09	mg/kg/day	0.00	0.00	mg/kg/day
LADC _{pot}	5.55E-08	4.03E-07	mg/L	0.00	0.00	mg/kg
Acute						
ADR _{pot}	7.95E-08	7.41E-07	mg/kg/day	0.00	0.00	mg/kg/day

SIC Code Comments:

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SIC CODE EXPOSURES TO SURFACE WATER RELEASES

SCENARIO #: 7

RELEASE ACTIVITY: PROC2: PDM1

SIC CODE DESCRIPTION: POTW (Indust., includes POTWs which receive ind. disch.)

ASSOCIATED SIC CODES: Subset of 4952

SIC CODE RESULTS

COC (µg/L)	Percent of Year COC Exceeded	Number of Days COC Exceeded	Release days/year	Loading (kg/site/day)	Waste Water Treatment (%)	High/Avg Analysis
43.00	0	0	53.00	2.60E-03	90.00	High

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Assessor: [REDACTED]

ENVIRONMENTAL RELEASES

Scenario#:8

Number of Release Sites: 25.

Release Activity: PROC2: Max LADD

Release Description:	WATER	LANDFILL Non-sludge/Sludge	STACK	FUGITIVE
Total Releases:	34.48 (kg/yr)	N/A (kg/yr)	N/A (kg/yr)	N/A (kg/yr)
Non-sludge/Sludge				
Release Days/yr:	1.00	0.00/0.00	N/A	N/A
Per Site Release:	1.38 (kg/site/day)	N/A/0.00 (kg/site/day)	N/A (kg/site/day)	N/A (kg/site/day)

Remarks:

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SIC-CODE BASED HUMAN AND AQUATIC EXPOSURES TO SURFACE WATER RELEASES

SCENARIO #: 8

Number of Sites: 25

RELEASE ACTIVITY: PROC2:
Max LADD

SIC-CODE DESCRIPTION: POTW (Indust., includes POTWs which receive ind. disch.)

SIC-CODE (S): Subset of 4952

EXPOSED POPULATION: Adult

WWT REMOVAL (%)	RELEASE DAYS	PRETREATMENT RELEASE (kg/site/day)	POSTTREATMENT RELEASE (kg/site/day)	DWT (%)	BCF (L/kg)
90.00	1.	1.37	0.14	0.00	0.00

AQUATIC EXPOSURE ESTIMATES - SURFACE WATER									
PLANT TYPE	% ILE FACILITY	STREAM FLOW (MLD)				STREAM CONC. (µg/l)			
		Harmonic Mean	30Q5	7Q10	1Q10	Harmonic Mean	30Q5	7Q10	1Q10
ALL	50	288.00	123.84	78.18	66.05	N/A	N/A	N/A	N/A
ALL	10	39.60	13.29	7.76	7.57	N/A	N/A	N/A	N/A

DRINKING WATER AND FISH INGESTION EXPOSURE ESTIMATES						
Exposure Units	Drinking Water Results		Drinking Water Units	Fish Ingestion Results		Fish Ingestion Units
	50%	10%		50%	10%	
Cancer						
LADD _{pot}	7.22E-09	5.25E-08	mg/kg/day	0.00	0.00	mg/kg/day
LADC _{pot}	5.55E-07	4.04E-06	mg/L	0.00	0.00	mg/kg
Acute						
ADR _{pot}	N/A	N/A	mg/kg/day	N/A	N/A	mg/kg/day

SIC Code Comments:

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Assessor: XXXXXXXXXX

ENVIRONMENTAL RELEASES

Scenario#:9

Number of Release Sites: 8.

Release Activity: USE: Max ADR

Release Description:	WATER	LANDFILL Non-sludge/Sludge	STACK	FUGITIVE
Total Releases:	29.76 (kg/yr)	N/A (kg/yr)	N/A (kg/yr)	N/A (kg/yr)
Non-sludge/Sludge				
Release Days/yr:	12.00	0.00/0.00	N/A	N/A
Per Site Release:	0.31 (kg/site/day)	N/A/0.00 (kg/site/day)	N/A (kg/site/day)	N/A (kg/site/day)

Remarks:

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SIC-CODE BASED HUMAN AND AQUATIC EXPOSURES TO SURFACE WATER RELEASES

SCENARIO #: 9

Number of Sites: 8

RELEASE ACTIVITY:USE: Max
ADR

SIC-CODE DESCRIPTION: POTW (Indust., includes POTWs which receive ind. disch.)

SIC-CODE (S): Subset of 4952

EXPOSED POPULATION: Adult

WWT REMOVAL (%)	RELEASE DAYS	PRETREATMENT RELEASE (kg/site/day)	POSTTREATMENT RELEASE (kg/site/day)	DWT (%)	BCF (L/kg)
90.00	12.	0.31	3.10E-02	0.00	0.00

AQUATIC EXPOSURE ESTIMATES - SURFACE WATER									
PLANT TYPE	% ILE FACILITY	STREAM FLOW (MLD)				STREAM CONC. (µg/l)			
		Harmonic Mean	30Q5	7Q10	1Q10	Harmonic Mean	30Q5	7Q10	1Q10
ALL	50	288.00	123.84	78.18	66.05	0.11	0.25	0.40	0.47
ALL	10	39.60	13.29	7.76	7.57	0.78	2.33	3.99	4.10

DRINKING WATER AND FISH INGESTION EXPOSURE ESTIMATES						
Exposure Units	Drinking Water Results		Drinking Water Units	Fish Ingestion Results		Fish Ingestion Units
	50%	10%		50%	10%	
Cancer						
LADD _{pot}	1.95E-08	1.42E-07	mg/kg/day	0.00	0.00	mg/kg/day
LADC _{pot}	1.50E-06	1.09E-05	mg/L	0.00	0.00	mg/kg
Acute						
ADR _{pot}	9.48E-06	8.83E-05	mg/kg/day	0.00	0.00	mg/kg/day

SIC Code Comments:

INITIAL REVIEW EXPOSURE REPORT

Chemical ID: P-16-0510

Assessor: XXXXXXXXXX

ENVIRONMENTAL RELEASES

Scenario#:10

Number of Release Sites: 8.

Release Activity: USE: PDM1

Release Description:	WATER	LANDFILL Non-sludge/Sludge	STACK	FUGITIVE
Total Releases:	380.00 (kg/yr)	N/A (kg/yr)	N/A (kg/yr)	N/A (kg/yr)
Non-sludge/Sludge				
Release Days/yr:	250.00	0.00/0.00	N/A	N/A
Per Site Release:	0.19 (kg/site/day)	N/A/0.00 (kg/site/day)	N/A (kg/site/day)	N/A (kg/site/day)

Remarks:

INITIAL REVIEW EXPOSURE REPORT

Chemical ID: P-16-0510

SIC-CODE BASED HUMAN AND AQUATIC EXPOSURES TO SURFACE WATER RELEASES

SCENARIO #: 10

Number of Sites: 8

RELEASE ACTIVITY:USE:
PDM1

SIC-CODE DESCRIPTION: POTW (Indust., includes POTWs which receive ind. disch.)

SIC-CODE (S): Subset of 4952

EXPOSED POPULATION: Adult

WWT REMOVAL (%)	RELEASE DAYS	PRETREATMENT RELEASE (kg/site/day)	POSTTREATMENT RELEASE (kg/site/day)	DWT (%)	BCF (L/kg)
90.00	250.	0.19	1.90E-02	0.00	0.00

AQUATIC EXPOSURE ESTIMATES - SURFACE WATER									
PLANT TYPE	% ILE FACILITY	STREAM FLOW (MLD)				STREAM CONC. (µg/l)			
		Harmonic Mean	30Q5	7Q10	1Q10	Harmonic Mean	30Q5	7Q10	1Q10
ALL	50	288.00	123.84	78.18	66.05	6.60E-02	0.15	0.24	0.29
ALL	10	39.60	13.29	7.76	7.57	0.48	1.43	2.45	2.51

DRINKING WATER AND FISH INGESTION EXPOSURE ESTIMATES						
Exposure Units	Drinking Water Results		Drinking Water Units	Fish Ingestion Results		Fish Ingestion Units
	50%	10%		50%	10%	
Cancer						
LADD _{pot}	2.49E-07	1.81E-06	mg/kg/day	0.00	0.00	mg/kg/day
LADC _{pot}	1.91E-05	1.39E-04	mg/L	0.00	0.00	mg/kg
Acute						
ADR _{pot}	5.81E-06	5.41E-05	mg/kg/day	0.00	0.00	mg/kg/day

SIC Code Comments:

INITIAL REVIEW EXPOSURE REPORT

Chemical ID: P-16-0510

SIC CODE EXPOSURES TO SURFACE WATER RELEASES

SCENARIO #: 10

RELEASE ACTIVITY: USE: PDM1

SIC CODE DESCRIPTION: POTW (Indust., includes POTWs which receive ind. disch.)

ASSOCIATED SIC CODES: Subset of 4952

SIC CODE RESULTS

COC (µg/L)	Percent of Year COC Exceeded	Number of Days COC Exceeded	Release days/year	Loading (kg/site/day)	Waste Water Treatment (%)	High/Avg Analysis
43.00	0	0	250.00	0.19	90.00	High

INITIAL REVIEW EXPOSURE REPORT

Chemical ID: P-16-0510

Assessor: XXXXXXXXXX

ENVIRONMENTAL RELEASES

Scenario#:11

Number of Release Sites: 8.

Release Activity: USE: Max LADD

Release Description:	WATER	LANDFILL Non-sludge/Sludge	STACK	FUGITIVE
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Total Releases:	391.52	N/A	N/A	N/A
	(kg/yr)	(kg/yr)	(kg/yr)	(kg/yr)

Non-sludge/Sludge

Release Days/yr:	1.00	0.00/0.00	N/A	N/A
Per Site Release:	48.94	N/A/0.00	N/A	N/A
	(kg/site/day)	(kg/site/day)	(kg/site/day)	(kg/site/day)

Remarks:

INITIAL REVIEW EXPOSURE REPORT

Chemical ID: P-16-0510

SIC-CODE BASED HUMAN AND AQUATIC EXPOSURES TO SURFACE WATER RELEASES

SCENARIO #: 11

Number of Sites: 8

RELEASE ACTIVITY:USE: Max
LADD

SIC-CODE DESCRIPTION: POTW (Indust., includes POTWs which receive ind. disch.)

SIC-CODE (S): Subset of 4952

EXPOSED POPULATION: Adult

WWT REMOVAL (%)	RELEASE DAYS	PRETREATMENT RELEASE (kg/site/day)	POSTTREATMENT RELEASE (kg/site/day)	DWT (%)	BCF (L/kg)
90.00	1.	48.94	4.89	0.00	0.00

AQUATIC EXPOSURE ESTIMATES - SURFACE WATER									
PLANT TYPE	% ILE FACILITY	STREAM FLOW (MLD)				STREAM CONC. (µg/l)			
		Harmonic Mean	30Q5	7Q10	1Q10	Harmonic Mean	30Q5	7Q10	1Q10
ALL	50	288.00	123.84	78.18	66.05	N/A	N/A	N/A	N/A
ALL	10	39.60	13.29	7.76	7.57	N/A	N/A	N/A	N/A

DRINKING WATER AND FISH INGESTION EXPOSURE ESTIMATES						
Exposure Units	Drinking Water Results		Drinking Water Units	Fish Ingestion Results		Fish Ingestion Units
	50%	10%		50%	10%	
Cancer						
LADD _{pot}	2.56E-07	1.86E-06	mg/kg/day	0.00	0.00	mg/kg/day
LADC _{pot}	1.97E-05	1.43E-04	mg/L	0.00	0.00	mg/kg
Acute						
ADR _{pot}	N/A	N/A	mg/kg/day	N/A	N/A	mg/kg/day

SIC Code Comments:

CEM Inputs		ID Number: P-16-0510	
Product: unknown		Chemical Name: P-16-0510	
Scenario: General Purpose Cleaner		Population: Adult	
Molecular Weight (g/mole):	1009	Vapor Pressure (torr)	1e-06
Consumer Product Weight Fraction - Central Tendency (unitless):	0.02	Consumer Product Weight Fraction - High-End (unitless):	0.02
Inhalation Inputs			
Frequency of Use (chronic) (events/yr):	300	Exposure Duration (chronic) (years):	57
Frequency of Use (acute) (events/day):	1	Exposure Duration (acute) (days):	1
Mass of Product Used per Event - Central Tendency (g):	61.5	Mass of Product Used per Event - High-End (g):	123
Inhalation Rate During Use (m ³ /hr):	0.74	Duration of Event - Central Tendency (hours/event):	0.667
Inhalation Rate After Use (m ³ /hr):	0.611	Duration of Event - High-End (hours/event):	1.42
Zone 1 Volume (m ³):	36	Whole House Volume (m ³):	523
Air Exchange Rate (air exchanges/hr):	0.45	Body Weight (kg):	80
Activity Patterns (Note: 1=Bedroom 2= Kitchen 3=Bathroom 4=Living Room 5=Utility Room 6=Car 7=Out)			
User:	1 1 1 1 1 1 1 2 2 1 5 4 2 4 6 7 4 2 2 7 4 4 4 1		
Non-User:	1 1 1 1 1 1 1 1 3 2 4 4 2 4 7 7 4 2 2 7 4 4 4 1		
Hour:	0 6 12 18		
Start Time: 7		Room of Use: 2. Kitchen	
Dermal Inputs			
Frequency of Use (chronic) (events/yr):	300	SA/BW (cm ² /kg):	12.3
Frequency of Use (acute) (events/day):	1		
		Exposure Duration (chronic) (years):	57
Amount Retained / Absorbed to Skin (g/cm ² -event):	3.49e-05	Exposure Duration (acute) (days):	1
Averaging Time (chronic) (days):	2.85e+04	Averaging Time (acute) (days) :	1

CEM Inhalation Exposure Estimates																							
ID Number: P-16-0510																							
Scenario: General Purpose Cleaner	Population: Adult																						
Exposure Duration (years) chronic: 57	Exposure Duration (days) acute: 1																						
<table><tr><th>Exposure Units</th><th>Result</th><th>AT (days)</th></tr><tr><td colspan="3">Chronic Cancer</td></tr><tr><td>LADD_{pot} (mg/kg-day)</td><td>6.73e-04</td><td>2.85e+04</td></tr><tr><td>LADC_{pot} (mg/m³)</td><td>3.67e-03</td><td>2.85e+04</td></tr><tr><td colspan="3">Acute</td></tr><tr><td>ADR_{pot} (mg/kg-day)</td><td>4.43e-05</td><td>1</td></tr><tr><td>Cp_{pot} (mg/m³)</td><td>5.86e-04</td><td>NA</td></tr></table>			Exposure Units	Result	AT (days)	Chronic Cancer			LADD _{pot} (mg/kg-day)	6.73e-04	2.85e+04	LADC _{pot} (mg/m ³)	3.67e-03	2.85e+04	Acute			ADR _{pot} (mg/kg-day)	4.43e-05	1	Cp _{pot} (mg/m ³)	5.86e-04	NA
Exposure Units	Result	AT (days)																					
Chronic Cancer																							
LADD _{pot} (mg/kg-day)	6.73e-04	2.85e+04																					
LADC _{pot} (mg/m ³)	3.67e-03	2.85e+04																					
Acute																							
ADR _{pot} (mg/kg-day)	4.43e-05	1																					
Cp _{pot} (mg/m ³)	5.86e-04	NA																					
LADD - Lifetime Average Daily Dose (mg/kg-day)	LADC - Lifetime Average Daily Concentration (mg/m ³)																						
ADR - Acute Dose Rate (mg/kg-day)	Cp - Peak Concentration (mg/m ³)																						

Note: 78 years = 2.85e+04 days pot - potential dose

Note: The general Agency guidance for assessing short-term, infrequent events (for most chemicals, an exposure of less than 24 hours that occurs no more frequently than monthly) is to treat such events as independent, acute exposures rather than as chronic exposure. (Methods for Exposure-Response Analysis for Acute Inhalation Exposure to Chemicals (External Review Draft). EPA/600/R-98/051. April 1998)

CEM Dermal Exposure Estimates																	
ID Number: P-16-0510																	
Scenario: General Purpose Cleaner	Population: Adult																
Exposure Duration (chronic) (years): 57	Exposure Duration (acute) (days): 1																
<table border="1"> <thead> <tr> <th>Exposure Units</th> <th>Result</th> <th>AT (days)</th> </tr> </thead> <tbody> <tr> <td colspan="3">Chronic Cancer</td> </tr> <tr> <td>LADD_{pot} (mg/kg-day)</td> <td>5.16e-03</td> <td>2.85e+04</td> </tr> <tr> <td colspan="3">Acute</td> </tr> <tr> <td>ADR_{pot} (mg/kg-day)</td> <td>8.59e-03</td> <td>1</td> </tr> </tbody> </table>			Exposure Units	Result	AT (days)	Chronic Cancer			LADD _{pot} (mg/kg-day)	5.16e-03	2.85e+04	Acute			ADR _{pot} (mg/kg-day)	8.59e-03	1
Exposure Units	Result	AT (days)															
Chronic Cancer																	
LADD _{pot} (mg/kg-day)	5.16e-03	2.85e+04															
Acute																	
ADR _{pot} (mg/kg-day)	8.59e-03	1															
LADD - Lifetime Average Daily Dose (mg/kg-day)																	
ADR - Acute Dose Rate (mg/kg-day)																	

CEM Inputs		ID Number: P-16-0510	
Product: unknown		Chemical Name: P-16-0510	
Scenario: Solid Air Freshener		Population: Adult	
Molecular Weight (g/mole):	1009	Vapor Pressure (torr):	1e-06
Consumer Product Weight Fraction - Central Tendency (unitless):	0.02	Consumer Product Weight Fraction - High-End (unitless):	0.02
Inhalation Inputs			
Frequency of Use (chronic) (events/yr):	6.14	Exposure Duration (chronic) (years):	57
Frequency of Use (acute) (events/day):	1	Exposure Duration (acute) (days):	1
Mass of Product Used per Event - Central Tendency (g):	52.7	Mass of Product Used per Event - High-End (g):	113.4
Inhalation Rate During Use (m ³ /hr):	0.74	Duration of Event - Central Tendency (hours/event):	720
Inhalation Rate After Use (m ³ /hr):	0.611	Duration of Event - High-End (hours/event):	2160
Zone 1 Volume (m ³):	18	Whole House Volume (m ³):	523
Air Exchange Rate (air exchanges/hr):	0.45	Body Weight (kg):	80
Activity Patterns			
User:	1 1 1 1 1 1 2 3 1 5 4 2 4 6 7 4 2 2 7 4 4 4 1		
Non-User:	1 1 1 1 1 1 1 1 3 2 4 4 2 4 7 7 4 2 2 7 4 4 4 1		
Hour:0	6	12	18
Start Time: 12	Room of Use: 3. Bathroom		
Dermal Inputs			
There are no Dermal inputs for this scenario.			
Averaging Time (chronic) (days):	2.85e+04	Averaging time (acute) (days) :	1

CEM Inhalation Exposure Estimates																							
ID Number: P-16-0510																							
Scenario: Solid Air Freshener	Population: Adult																						
Exposure Duration (years) chronic: 57	Exposure Duration (days) acute: 1																						
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Exposure Units	Result	AT (days)																					
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